Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Development of Nationwide Broadband	)	WC Docket No. 07-38
Data to Evaluate Reasonable and Timely	)	
Deployment of Advanced Services to	)	
All Americans, Improvement of Wireless	)	
Broadband Subscribership Data, and	)	
Development of Data on Interconnected	)	
Voice over Internet Protocol Subscribership	)	

Reply Comments of Communications Workers of America

Debbie Goldman
501 Third St. N.W.
Washington, D.C. 20001
(202) 434-1194 (phone)
(202) 434-1201 (fax)
dgoldman@cwa-union.org

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The Communications Workers of America ("CWA") submits these reply comments in response to the Notice of Proposed Rulemaking ("NPRM") seeking comment on how the Commission can continue to acquire the information it needs to develop and maintain appropriate broadband policies.[1] CWA represents 700,000 employees in telecommunications, broadcasting, publishing, health care, manufacturing, airlines, higher education, state and local government, and other public and private sector organizations.

The Commission must act promptly to improve the collection of information regarding broadband deployment, adoption, speeds, and price. Without adequate data, we cannot design effective and targeted policies to address the fact that the United States – the nation that invented the commercial Internet – has fallen to 16th in the world in broadband deployment[2]; there is a significant digital divide based on income and geography[3]; and Americans pay more for slower speeds than people in other advanced nations.[4]

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[1] In the Matter of In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol Subscribership, Notice of Proposed Rulemaking, WC Docket No. 07-38, April 16, 2007 (rel.) (NPRM).

[2] The 2006 International Telecommunications Union (ITU) survey ranked the U.S. 16th in household broadband adoption, *See* ITU, World Telecommunications Database 2006 (available at http://www.itu.int/osg/spu/newslog/ITUs+New+Broadband+Statistics+For+1+January+2005.aspx). The 2005-6 ITU Digital Opportunity Index ranked the U.S. 20th in digital opportunity, a composite of 11 indicators including Internet access price, penetration, and advanced broadband technologies (available at http://www.itu.int/osg/spu/publications/worldinformationsociety/2007/WISR07_full-free.pdf). The Organization for Economic Cooperation and Development ranked the United States 15th among OECD countries in broadband adoption. *See* OECD survey available at http://www.oecd.org/document/7/0,3343,en_2649_34223_38446855_1_1_1_1,00.html).

[3] According to the U.S. Government Accountability Office (GAO), two-thirds (62 percent) of Americans who earn over $100,000 a year get broadband, but only 11 percent of households that earn less than $30,000 a year subscribe. Only one-quarter of middle-income families earning between $30,000 and $50,000 a year subscribe to broadband. The GAO also found a significant urban/rural gap. While 29 percent of urban households and 28 percent of rural households subscribe to broadband, only 17 percent of rural households do. Government Accountability Office, *Broadband Deployment Is Extensive throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas*, GAO-06-426 April 2006 (available at

In our initial comments, CWA made the following recommendations to improve Commission broadband data collection:

1. Require all broadband providers to report the number of broadband subscribers by customer category (residential, small business, large business);
2. Require all broadband providers to report the number of homes "passed" by their broadband infrastructure;
3. Require broadband providers to report the number of subscribers and homes passed at the more detailed "zip plus four" geographic level, at least in more rural areas where a five-digit zip code covers a large territory.
4. Require reporting in more detailed speed tiers, splitting the current first tier into two, with a lower tier from 200 kbps to 1 mbps and the next tier at 1 mbps to 2.5 mbps; and consider splitting what is currently the second tier of 2.5 mbps to 10 mbps into two. Upgrade the speed tiers as technology and markets evolve.
5. Develop, possibly in collaboration with the Department of Commerce's National Telecommunications and Information Administration (NTIA), an online interactive

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http://www.gao.gov/new.items/d06426.pdf) ("GAO Broadband Report"). According to the Pew Internet 2007 Home Broadband Survey, only 31 percent of rural households compared to 49 percent of suburban and 52 percent of urban households subscribe to broadband. Only 30 percent of those earning under $30,000 a year compared to 58 percent of those earning between $50,000 and $75,000 a year, and 76 percent of those earning over $75,000 a year subscribe to broadband. Pew Internet and American Life, Home Broadband Adoption 2007 (available at http://www.pewinternet.org/pdfs/PIP_Broadband%202007.pdf)("Pew Survey").

[4] In Japan, 80 percent of households can connect to a fiber network at a speed of 100 megabits per second (mbps). Daniel K. Correa, The Information Technology and Innovation Foundation, "Assessing Broadband in America: OECD and ITIF Broadband Rankings," April 2007 (available at http://www.itif.org/files/BroadbandRankings.pdf); Derek S. Turner, "Broadband Reality Check II", Aug. 2006 (available at http://www.freepress.net/docs/bbrc2-final.pdf).

map of broadband infrastructure, modeled after the successful Connect Kentucky broadband mapping program.

6. Require reporting of actual speeds and price of broadband service.
7. Change the Commission definition of "advanced services" from the current 200 kbps in two directions to 2 mbps downstream, 1 mbps upstream. The definition should evolve as technology and markets develop.[5]

In their initial comments, consumer organizations, state regulators, local governments, the American Library Association, the Information Technology Industry Council, the Information Technology and Innovation Foundation and many industry trade groups all agreed with CWA that the Commission must make significant improvements in its broadband data collection. There was also broad consensus that the Commission's current zip code reporting methodology that simply requires a provider to indicate if it has at least one subscriber in a zip code is deeply flawed. There was widespread agreement that the Commission must require reporting of actual deployment and the number of subscribers in much greater detail to identify where and why there are gaps in high-speed network infrastructure and adoption. We detail the areas of consensus below.

Improvements in Form 477 Subscribership and Deployment Data. The American Library Association (ALA), California Public Utilities Commission ("California Commission"),

[5] Comments of Communications Workers of America, *In the Matter of In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol Subscribership*, WC Docket No. 07-38, June 15, 2007 ("CWA Comments").

Free Press/Consumers Union/Consumer Federation of America ("Free Press et al"), Information Technology Industry Council ("ITIC"), Embarq, Massachusetts Department of Telecommunications and Cable ("Massachusetts Telecom Department"), Maine Public Utilities Commission ("Maine Commission"), National Association of State Utility Advocates ("NASUCA"), National Cable and Telecommunications Association ("NCTA"), National Association of Telecommunications Offices and Advisors ("NATOA"), National Association of Counties ("Counties"), National League of Cities ("Cities"), U.S. Conference of Mayors ("Mayors"), Information Technology and Innovation Foundation ("ITIF"), New York State Department of Public Service ("NY PSC"), People of the State of Illinois, Time Warner Cable, and the Wireless Communications Association all urged the Commission to collect broadband deployment information at a more granular level.[6]

Most of these organizations supported collecting deployment and subscriber information at the 9 digit zip code level. Free Press et al commented that the Census Bureau has created a "ZIP code Tabulation Area" ("ZCTA") for the 2000 Census which largely, although not perfectly, correlates to Census Bureau blocks. Several private firms have created demographic

[6] Comments of American Library Association, California Public Utilities Commission ("California Commission"), Free Press/Consumers Union/Consumer Federation of America ("Free Press et al"), Information Technology Industry Council ("ITIC"), Embarq, Massachusetts Department of Telecommunications and Cable and Maine Public Utilities Commission ("Massachusetts and Maine"), National Association of State Utility Advocates ("NASUCA"), National Cable and Telecommunications Association ("NCTA"), National Association of Telecommunications Offices and Advisors, National Association of Counties, National League of Cities, U.S. Conference of Mayors ("NATOA et al"), Information Technology and Innovation Foundation ("ITIF"), New York State Department of Public Service ("NY PSC"), People of the State of Illinois, Time Warner Cable, and the Wireless Communications Association, *In the Matter of In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol Subscribership*, WC Docket No. 07-38, June 15, 2007.

data sets from the Census ZCTA data to correspond to 5-digit zip codes.[7] Collecting subscriber and deployment information at the 5-digit (or possibly 9-digit) zip code level would allow the Commission and other policymakers and researchers to analyze the data by demographic characteristics to understand reasons for slow adoption and/or build-out.

As an alternative, the California Commission advocated collecting all Form 477 data at the census block group, noting that this would facilitate demographic analysis of the data.[8] The California Commission explained that it is already collecting broadband data from holders of state-issued video franchises. Under that state's video franchising statute and regulation, state video franchise holders must provide the location of their service area at the census block group level for the number of homes passed with broadband and must provide the number of broadband subscribers at the census tract level.[9]

Clearly, there is overwhelming consensus that the Commission should increase the granularity of the geographic information that it collects regarding where broadband infrastructure has been built and which households (and CWA would add, small businesses)

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[7] Comments of Free Press et al, p. 28 fn25.

[8] The U.S. Census Bureau defines a census tract as follows: "Designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions, census tracts average about 4,000 inhabitants." There are 65,443 census tracts in the United States. A census block group is smaller than a census tract. See U.S. Census Bureau, Question & Answer, Available at https://ask.census.gov/cgi-bin/askcensus.cfg/php/enduser/std_adp.php?p_faqid=245&p_created=1077122473&p_sid=-D221wGi&p_accessibility=0&p_redirect=&p_lva=&p_sp=cF9zcmNoPTEmcF9zb3J0X2J5PSZwX2dyaWRzb3J0PSZwX3Jvd19jbnQ9MTA4JnBfcHJvZHM9JnBfY2F0cz0mcF9wdj0mcF9jdj0mcF9wYWdlPTEmcF9zZWFyY2hfdGV4dD1jZW5zdXMgdHJhY3QgZGVmaW5pdGlvbg**&p_li=&p_topview=1

[9] Comments of the California Public Utilities Commission and the People of the State of California on the Development of Broadband Data, *In the Matter of In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol Subscribership*, WC Docket No. 07-38, June 15, 2007 ("Comments of California Commission"), 7-10.

subscribe to broadband. There remains some technical disagreement as to whether collecting this information at the 5-digit zip, 9-digit zip, census block group, or census tract level is the most appropriate manner to facilitate correlation with Census Bureau demographic information. The California experience is particularly pertinent to resolution of this issue.

Speed Tiers. Commentators representing consumers, librarians, the IT industry, state regulators, cities and counties, and CWA all recommended creating smaller speed tiers for purpose of Form 477 reporting to enable better assessment of the evolution of high-speed broadband services in different regions of the country and among different demographic groups.[10] Most commentators advocated splitting the current first tier (now set at 200 kbps to 2.5 mbps) into at least two, with most urging a divide at roughly 1 mbps downstream.[11] CWA urged splitting the current second tier into two, and Free Press et al urged even more detailed reporting. CWA concurs with Free Press that reporting should be required on both upstream and downstream speeds. CWA joins other commentators in urging the Commission to upgrade its speed tiers as technology and markets change.

Connect Kentucky Broadband Mapping Model. Many organizations, including telephone providers, state regulators, cities and counties, and the CWA urged the Commission to collect detailed deployment data in order to create a national interactive broadband map, following the model of the successful Connect Kentucky program.[12] Cincinnati Bell Telephone

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[10] See Comments of America Library Association, Free Press et al, Iowa Utilities Board, Massachusetts Dept of Telecom and Maine Commission, National Association of State Utility Advocates, National Association of Telecommunications Officers and Advisors et al, Vonage, and CWA.

[11] Comments of ALA, NASUCA, NATOA et al, Vonage.

[12] Comments of Cincinnati Bell Telephone Company, NASUCA, NCTA, NY PSC, USTA, Verizon, CWA.

Company noted that they have participated in the broadband mapping process with Connect Kentucky, and while there were some initial costs to providing the information, once the process was set up, updating the data has been relatively easy.

Data collection on broadband speeds and prices. Consumer commentators and NASUCA agreed with CWA that the Commission should collect information so that consumers and policymakers can assess the actual speeds and prices of high-speed Internet connections. In our initial comments, we pointed out that there is no federal agency that collects data on Internet connection speed. To fill that gap, CWA posted a speed test on a website, speedmatters.org. Between September 2006 and May 2007, more than 80,000 people visited speedmatters.org to test the speed of their Internet connection. (See http://www.speedmatters.org).[13]

Most of the speed testers used either a DSL or a cable modem connection. In fact, one of the limitations of the speed test was the scarcity of tests conducted by dial-up Internet users. According to the most recent Pew Internet survey, 23 percent of Internet users in this country still connect to the Internet with a dial-up connection.[14]

The median download speed of the 80,000 Internet users who took the speed test was 1.9 mbps. This compares to an average download speed of 61 mbps in Japan, 45 mbps in South

[13] CWA Comments, p.8. The initial comments stated that 70,000 people took the Speed Test between September 2006 and May 2007. That number should be corrected; 80,000 people took the test over that time period. During the month of June, due to significant press attention to the speedmatters.org speed test, another 30,000 took the test.

[14] Pew Survey Internet and American Life, Home Broadband Adoption 2007 available at http://www.pewinternet.org/pdfs/PIP_Broadband%202007.pdf. A March 2007 survey by Leichtman Research found that 28% of U.S. homes with an Internet connection used a dial-up connection (available at http://www.leichtmanresearch.com/press/060707release.html).

Korea, 18 mbps in Sweden, 17 mbps in France, and 7 mbps in Canada. Median upload speed was 371 kbps, far below what is necessary for interactive medical monitoring or videoconferencing.[15]

While CWA believes that the speed test is the most comprehensive national and state-by-state data currently available on Internet connection speeds in the United States, we also must emphasize that there are limitations to a purely voluntary open source model. In order to obtain a comprehensive and representative sample with detailed information through an open source model, professional statisticians must develop an appropriate methodology and resources must be devoted for outreach to users.

Change the Commission Definition of "High Speed." The Information Technology Industry Council, as well as Free Press et al, concurred with CWA that it is long past time for the Commission to increase its definition of "advanced services." The current Commission definition of "high speed" at 200 kbps and "advanced services" at 200 kbps in both directions is simply too slow to permit most two-way interactive applications or the transfer of video. The ITIC recommends raising the threshold with two tiers: basic (at 1 mbps down, 384 kbps up) and robust (at least 8 mbps down, 768 kbps up). While in our initial comments CWA urged the Commission to upgrade the definition to a minimum of 2 mbps downstream and 1 mbps upstream, CWA sees merit in the ITIC's proposal to develop two threshold tiers, with the latter set at a threshold that would permit the transfer of video and two-way interactive applications.

Conclusion. The United States alone among the advanced nations of the world has no national high-speed broadband policy to ensure that all Americans have access to high-speed

[15] Communications Workers of America, "Speed Matters: A Report on Internet Speeds in All 50 States," July 2007 (available at http://www.speedmatters.org/pages/state.html). For international data, see Daniel K. Correa, The Information Technology and Innovation Foundation, "Assessing Broadband in America: OECD and ITIF Broadband

Internet services. In order to develop a coherent and effective national high-speed broadband policy, we must have good data. We need to know where infrastructure is deployed, adoption rates, speeds, and prices at a state and local level. It is long past time for the Commission to improve its high-speed broadband data collection, and to upgrade its definition of "high speed" services. Good data collection is an essential step toward making sure that every American home and business has access to affordable, world-class Internet services.

Respectfully submitted,

Debbie Goldman
Communications Workers of America

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Rankings," April 2007 (available at http://www.itif.org/files/BroadbandRankings.pdf).